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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,110	11/25/2003	Richard Paul Messmer	124383-2	1274

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CANTOR COLBURN, LLP
20 Church Street
22nd Floor
Hartford, CT 06103

EXAMINER	
PROCTOR, JASON SCOTT	
ART UNIT	**PAPER NUMBER**
2123	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/723,110	MESSMER ET AL.	
	Examiner	Art Unit	
	Jason Proctor	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-28 were rejected in the Office Action entered on 26 September 2007.

Applicants' submission on 13 December 2007 has amended claims 1, 3-4, 11, 13-14, 18, 21, and 23-24. Claims 1-28 are pending in this application.

Claims 1-28 are rejected.

Information Disclosure Statement

1. The information disclosure statement filed 27 August 2007 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

The "ProModel User's Guide version 4.0" and "ProModel Keyless version 4.1" references were not found in this application or in the parent application. These citations have been lined through. The other references have been considered.

Response to Arguments – 35 USC 103

In response to the previous rejection of claims 1-4, 6, 8, 9, 11-16, 18-26, and 28, Applicants argue primarily that:

> Applicants have amended Claim 1 to positively recite that "the server further stores the output data file as a future model template in the database, and wherein the server runs at least one additional simulation and with the future model template as input to the model application." Applicants respectfully submit that Son et al. in view of Kosiba et al. does not teach or suggest that "the server further stores the output data file as

> a future model template in the database, and wherein the server runs at least one additional simulation and with the future model template as input to the model application" as in Claim 1 as amended. Applicants have similarly amended Claims 11, 18, and 21.

The Examiner has fully considered this argument and finds it persuasive. The previous rejections are withdrawn. A search of the prior art has revealed references teaching the amended limitations. Accordingly, new grounds of rejection are entered below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. § 103(c) and potential 35 U.S.C. § 102(e), (f) or (g) prior art under 35 U.S.C. § 103(a).

2. Claims 1-4, 6, 8, 9, 11-16, 18-26 and 28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Son et al ("Automatic Generation of Simulation Models from Neutral Libraries: An Example", Proceedings of the 2000 Winter Simulation Conference", Volume 2,

pages 1558-1567, Orlando, FL, December 2000) in view of Kosiba et al. (US Patent 7,103,562), further in view of "Neutral Template Libraries for Efficient Distributed Simulation within a Manufacturing System Engineering Platform" by Kai Mertins, Markus Rabe, and Frank-Walter Jaekel (hereafter referred to as Mertins).

As to Claims 1, 11, 18 and 21 Son et al teaches:

a system to simulate a process of discrete events or tasks having a plurality of available resources associated therewith, the system comprising: a database to store a plurality of models, each model including a plurality of one or more entity, task, and resource parameter (Figure 1, "Library of Simulation Objects for All Applications"; section 1, paragraph 2, lines 1-12; Figure 3; section 4, 4.1,4.2 and previous descriptions of information and tables used to populate the database tables section 3), each model associated with a model template having a plurality of tables representative of each of the plurality of one or more entity, task, and resource parameter [*"model templates"* (page 1558, right column); *"After the library of simulation objects is constructed, each component in the library becomes a basic building block (module) to model systems of interest."* (page 1558, right column)], wherein the database stores a plurality of model objects that include modeling data, algorithms and I/O of at least one of standalone models, models deployed in dicisioning, and historical models from prior simulations (Figure 1, "Library of Simulation Objects For all applications");

a model application (Figure 1, "Model Builder") in communication with the database which receives commands from a user,

to retrieve one of the plurality of models and the corresponding plurality of one or more entity, task, and resource parameter in response to a user command (section 1, paragraph 2, lines 12-15, paragraph 3, lines 1-3; Figure 1, "User", "Model Description (Neutral); section 5.1, lines 1-4; Section 5.5),

to receive input data corresponding to attributes of one or more entity, task, and resource parameter from a business database system (Figure 1, "Shop Floor (Real Data); Figure 4; section 5.1, paragraph 1, lines 4-9; section 5.2, paragraph 2, lines 10-11), and

to perform allocations of the one or more entity, task, and resource parameters, to store the allocations in the database [*"Each station information object is composed of... a capacity... Capacity – the integer value defining capacity characteristics of the station."* (page 1560), performing allocations of a capacity resource], and

to generate a simulation model based on the selected business database system, the allocations that are retrieved from the database by the model application to generate the simulation model, and the input data (section 1, paragraph 3, lines 3-6; Figure 1, "Model Builder", "Specific Simulation Model"; section 5, introductory paragraph; section 5.1, paragraph 1, lines 4-9; section 5.2, paragraph 2, lines 10-11; section 5.3, lines 13-14; Figure 5)

wherein the model application is further builds each model from combined model objects that instantiate new object models [*"The shop floor information object describes the physical entities on the shop floor. Each simulation file is associated with one shop floor information objects. The shop floor information object is composed of a set of station information objects. Each station information object is composed of a station*

name, a capacity..." (Section 3.3); alternatively, Kosiba teaches object oriented programming (columns 25-26)] and

a server to perform a simulation of the process, by processing the simulation model and to generate an output data file containing output data representative thereof (Figure 1, "Engine Simulation", "Data Analyzer", "Animation Visualization"; section 3.6; section 5.4, Figure 6; Conclusion, lines 9-12).

Son et al does not expressly teach:

an optimizing application in communication with the model application and which receives commands from a user, to select at least one entity, task, and resource parameter of the simulation model with respect to an objective function, to define bounds of at least one of the entity, task, and resource parameter selected, and to generate values for the objective function based on the at least one of the task, and resource parameter selected; and

wherein the server further stores the output data file as a future model template in the database, and wherein the server runs at least one additional simulation and with the future model template as input to the model application.

Kosiba teaches the "optimizing application" limitations.

Kosiba et al teaches a system that can easily produce accurate staff plans, budget plans and behavioral analysis for a business (column 3, lines 5-8) that overcomes the limitations of prior art discrete event simulation systems that are complex to develop, difficult to use and too computationally slow for budget and staff planning (column 2, lines 51-67), wherein a discrete

event simulation model is created based on inputs such as available resources and the performance of the resources (column 12, lines 35-65), an optimizing application in communication with the model application and configured to receive commands from a user, to select at least one entity, task, and resource parameter of the simulation model with respect to an objective function, to define bounds of at least one of the entity, task, and resource parameter selected, and to generate values for the objective function based on the at least one of the task, and resource parameter (column 24, line 46-column 25, line 45).

Son et al and Kosiba et al are analogous art since they are both directed to the building of a discrete event simulation model for a business process for the purpose of performance analysis.

Mertins teaches the "server storing" limitations.

Mertins teaches that a server further stores the output data file as a future model template in the database, and wherein the server runs at least one additional simulation and with the future model template as input to the model application [*"Instead of a detailed description of a template, it is possible to compose a template of other templates (Figure 8). This allows a modular structure of the templates and the components of the distributed simulation. For example, a transport system may be composed of a route planning system, a network simulation and a vehicle simulation (Figure 8)."* (page 1555, left column); *"The definition of the object and attribute names within the* [Federate Configuration] *files according to the FED file are necessary, because otherwise a federate does not recognize the names of the involved exchange objects... Default values can be defined to substitute more detailed simulation models. For*

example, the speed attribute of a vehicle is defined as an attribute of an exchange object and set by an engine simulator. The default setting of the speed attribute will allow to leave out the engine simulator. On the same way, initial values allow to define a start status of a simulation model. The setting of simulation parameters can be used to tune the simulation models. For example, two part processing lines A and B are used as building blocks. Then the performance of the processing lines can be defined for each building block by setting the performance parameters. Therefore, the same model can be used in different incarnations." (page 1555, right column – page 1556, left column)].

Mertins and Son in view of Kosiba are analogous art because both are drawn to generating simulations from neutral libraries.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system to simulate a process of discrete events as taught by Son et al to include the optimizing application that generates values for an objective function as taught in Kosiba et al since Kosiba et al teaches a system that can easily produce accurate staff plans, budget plans and behavioral analysis for a business (column 3, lines 5-8) that overcomes the limitations of prior art discrete event simulation systems that are complex to develop, difficult to use and too computationally slow for budget and staff planning (column 2, lines 51-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further combine the teachings of Mertins with Son in view of Kosiba to store the output data files as a future model template and to run at least one additional simulation with the future model template as input to the model application as expressly taught by Mertins to "allow

a flexible definition of classes, attributes and objects" (Mertins, page 1550, right column) and further advantages (pages 1556-1557, "Advantages of the Template Library Approach") such as "including a mechanism to reuse simulation models from different simulators in different simulation scenarios.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Son, Kosiba, and Mertins to arrive at the invention specified in claims 1, 11, 18 and 21.

As to Claims 2, 12, 19, and 22, Son et al in view of Kosiba et al, further in view of Mertins teach: wherein the objective function comprises a combination of system financial performance measures and process performance measures (Kosiba et al: column 24, line 46-column 25, line 45).

As to Claims 3, 13, 20 and 23, Son et al in view of Kosiba et al, further in view of Mertins teach: wherein the optimization application is further configured to receive commands from a user to select another at least one entity, task, and resource parameter of the simulation model with respect to an objective function, to define bounds of the other at least one of the entity, task, and resource parameter selected, and to generate values for the objective function based on the other at least one of the entity, task, and resource parameter selected (Kosiba et al: column 3, lines 30-35; column 22, lines 32-35; column 24, line 41-column 25, line 45).

As to Claims 4, 14 and 24, Son et al in view of Kosiba et al, further in view of Mertins teach: the optimizing application in communication with the model application and configured to receive commands from a user further to generate financial performance data based on the values generated for the objective function (Kosiba et al: column 25, lines 46-58).

As to Claims 6, Son et al in view of Kosiba et al, further in view of Mertins teach: wherein at least one of the model application and the optimization application is interactive with a user (Kosiba et al: Figure 9, element 990; column 22, lines 32-35; column 24, lines 56-57; Son et at: section 1, paragraph 2, lines 12-15; Figure 1, "User"; Figure 2 and description; section 5.5; Conclusion, lines 8-12).

As to Claims 8, 15 and 25, Son et al in view of Kosiba et al, further in view of Mertins teach: wherein the model application performs processing on the input data corresponding to attributes of one or more entity, task, and resource parameter from the business database system, the processing including determining relationships within the input data (Son et al: section 4.2; section 5.1, paragraph 1, lines 4-9; section 5.2, paragraphs 1-3; section 5.3, lines 9-14).

As to Claims 9, 16 and 26, Son et al in view of Kosiba et al, further in view of Mertins teach: The system according to claim 8, wherein the processing includes performing distribution curve fitting on the input data using a goodness of fit technique (Kosiba et al column 10, lines 59-62; column 11, lines 27-42; column 12, lines 35-38, wherein the input data that is used to create the discrete event simulation model is processed).

As to Claim 28, Son et al in view of Kosiba et al, further in view of Mertins teach: means for updating the model database with performance and processing details from an operation data system (Kosiba et al: column 13, lines 50-64).

3. Claims 5, 7, 10, 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Son et al in view of Kosiba et al, further in view of Mertins, as applied to claims 1, 11 and 21 above, and further in view of Fontana et al (US Patent 6,167,564).

Son et al in view of Kosiba et al, further in view of Mertins teach a system to simulate a process of discrete events or tasks with a plurality of resources associated therewith including a model application and an optimizing application, wherein commands from a user are received through a graphical user interface (Son et al; section 1, paragraph 2, lines 14-15; Figure 2 and description; section 5.5; section 6, lines 9-12). Son et al further teaches that the neutral libraries of simulation components would speed and enable internet-based simulation services (Abstract, lines 3-6; section 1, paragraph 2, lines 14-15).

Son et al in view of Kosiba et al, further in view of Mertins do not expressly teach (claim 5) wherein at least one of the model application and the optimization application are located at a web server; (claim 7) wherein the interacting with a user is performed over the Internet and (claims 10, 17 and 27), the graphical user interface is located remote from the database.

Fontana et al teaches a system for integrating software development tools and applications into a computer system in order to build, deploy and maintain enterprise business

process applications in a heterogeneous development framework that overcomes the prior art limitations of integrating only those tools from the same vendor or the lack of tool interoperability wherein (claim 5) a model application is located at a web server (Figure 5, element 66; column 8, lines 54-55) wherein (claim 7) the interacting with a user is performed over the Internet (Figure 2, elements 30, 29; Figure 5, elements 72, 73; column 9, lines 1-3) and wherein (claims 10, 17 and 27) the graphical user interface is located remote from the database (Figure 2, element 30; column 5, lines 37-48).

Son et al in view of Kosiba et al, further in view of Mertins and Fontana et al are analogous art since they are all directed to the modeling of a business process.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system to simulate a process of discrete events or tasks including a model application and an optimizing application as taught by Son et al in view of Kosiba et al, further in view of Mertins to further include the location of a model application or optimization application at a web server, interacting with a user over the internet and wherein the graphical user interface is located remote from the database as taught by Fontana et al since Fontana et al teaches a system for integrating software development tools and applications into a computer system in order to build, deploy and maintain enterprise business process applications in a heterogeneous development framework that overcomes the prior art limitations of integrating only those tools from the same vendor or the lack of tool interoperability wherein a model application is located at a web server (Figure 5, element 66; column 8, lines 54-55).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (571) 272-3713. The examiner can normally be reached on 8:30 am-4:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached at (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR)

system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason Proctor
Examiner
Art Unit 2123

jsp

PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100